IN THE CLAIMS:

Claims 1, 18 and 19 have been amended and new claims 23-25 have been added.

1. (Currently amended) An evaporator for exchanging heat between an airflow and a refrigerant fluid, with the refrigerant fluid passing from a liquid state to a gaseous state, the evaporator comprising:

a tube bank comprising a row of flat tubes (1) and corrugated spacers (2), the flat tubes having a width of dimension l and inner circulation channels, the corrugated spacers being stacked alternatively with the flat tubes and spacing the flat tubes apart from one another by a distance d, the corrugated spacers comprising corrugations defining passages for the airflow in a first direction (F1) of the width of the flat tubes; and

fluid boxes (31, 32) respectively situated at opposite ends of the flat tubes to respectively communicate with the opposite ends of the flat tubes;

wherein the fluid boxes and the flat tubes are formed from ~~two~~ first and second metal plates, each of said first and second metal plates ~~plate~~ having ~~grooves~~ grooved and non-grooved portions, ~~the concavities of which are~~ the concavities of the grooved portions being turned towards one another so that the non-grooved portion of the first plate is brazed to the non-grooved portion of the second plate thereby forming ~~plates are brazed together, the corresponding grooves form~~ the fluid boxes and at least two of the inner circulation channels within the flat tubes.

2. (Original) The evaporator as claimed in claim 1, wherein the total thickness (E_e) of a tube lies between 1.0 and 2.7 mm.

3. (Original) The evaporator as claimed in claim 1, wherein the wall thickness (e_1) of a tube lies between 0.2 and 0.7 mm.

4. (Previously amended) The evaporator as claimed in claim 1, wherein the height of the inner circulation channel lies between 0.6 and 1.8 mm.

5. (Previously amended) The evaporator as claimed in claim 1, wherein the corrugation half-period (p/2) of the spacers lies between 1.0 and 1.8 mm.

6. (Previously amended) The evaporator as claimed in claim 1, wherein the wall thickness (e_2) of the spacers lies between 0.05 and 0.1 mm.

7. (Previously amended) The evaporator (10) as claimed in claim 1, wherein the tubes and the fluid boxes (18, 21) are in the form of a stack of pouches (11) each formed from two sheet-metal plates (12, 13) stamped into the shape of cups, the concavities of which are turned towards one another and which are brazed together so as to be leaktight at their periphery, each pouch defining one of the said tubes and featuring, at each of its ends, an increased thickness so as to define a segment of fluid box.

8. (Withdrawn) The evaporator (30) as claimed in claim 1, wherein the fluid boxes are independent components (31, 32) featuring apertures (34) through which penetrate the ends of the tubes (1), the latter being brazed so as to be leaktight to the edge of the apertures.

9. (Withdrawn) The evaporator as claimed in claim 8, wherein each tube is formed from two stamped sheet-metal plates (1a, 1b) which are brazed together for leaktightness along their lateral edges (1c) and for stiffening at intermediate regions (1d) projecting towards the inside of the tube.

10. (Withdrawn) The evaporator as claimed in claim 8, wherein each tube is formed from two stamped sheet-metal plates which are brazed together so as to be leaktight along their lateral edges, the tube being stiffened by an insert brazed onto the inner faces of the plates.

11. (Withdrawn) The evaporator as claimed in claim 8, wherein the tubes are extruded tubes.

12. (Withdrawn) The evaporator as claimed in claim 8, wherein the tubes are formed from metal sheets which are folded and closed by longitudinal brazed joints.

13. (Withdrawn) The evaporator (30) as claimed in claim 8, wherein at least one fluid box (31) is formed from two elements (33, 37) delimiting an internal volume (45, 46), one of which (33) features the said apertures (34), and at least one affixed internal partition (39) separating the said internal volume into different chambers (45, 46) each of which communicates with one subset of the tubes.

14. (Withdrawn) The evaporator (30) as claimed in claim 8, wherein at least one fluid box (32) is formed from a manifold plate (33) featuring the said apertures (34), and of at least two tank-shaped elements (41, 42) interacting with the manifold plate, each over a part of the extent of the plate, so as to delimit respective chambers (47, 48) each of which communicates with a subset of the tubes.

15. (Withdrawn) The evaporator as claimed in claim 8, wherein at least one fluid box is formed from at least one stamped sheet-metal element (60) defining, on either side of a fold line (L), a manifold plate (62) featuring the said apertures (63) and a tank (61) which are brought edge to edge by folding and brazed together so as to delimit a chamber of the fluid box.

16. (Previously amended) The evaporator as claimed in claim 4, wherein the fluid boxes and tube bank define a journey comprising 4 to 6 passes for the refrigerant fluid in the evaporator.

17. (Previously added) The evaporator as claimed in claim 1 wherein the inner circulation channels are separated by ribs extending parallel to said circulation channels.

18. (Currently amended) The evaporator as claimed in claim 17 wherein the ~~ribs are comprised of a double metal wall~~ non-grooved portions of the first plate are brazed to the non-grooved portions of the second plate to form the ribs which add stability to the evaporator.

19. (Currently amended) The evaporator as claimed in claim 1 wherein an individual flat tube ~~may include~~ includes a first said inner circulation channel having a first width and a second said inner circulation channel having a second width.

20. (Previously added) The evaporator of claim 17 wherein the rib is connected to the inner circulation channel at a mid-point between a top and a bottom of the inner circulation channel.

21. (Previously added) The evaporator of claim 1 wherein the dimension l is between 20 and 55 mm and wherein the distance d is between 4.0 and 7.6 mm.

22. (Previously added) The evaporator of claim 1 wherein the fluid boxes and tube bank define a journey comprising at least two passes for the refrigerant fluid in the evaporator.

23. (New) An evaporator for exchanging heat between an airflow and a refrigerant fluid, with the refrigerant fluid passing from a liquid state to a gaseous state, the evaporator comprising:

a tube bank comprising a row of flat tubes and corrugated spacers, the flat tubes having inner circulation channels, the corrugated spacers being stacked alternatively with the flat tubes thereby defining airflow passages between the flat tubes,

fluid boxes situated at opposite ends of the flat tubes to allow communication between the inner circulation channels,

wherein the fluid boxes and the flat tubes are formed from first and second metal plates, said first and second metal plates being brazed together along a brazing interface plane, said brazing interface plane being defined by a single flat plane extending between said first and second metal plates, grooves in said first and said second metal plates forming the fluid boxes and at least two inner circulation channels within the flat tubes.

24. (New) The evaporator as described in claim 23 wherein said brazing interface plane coincides with a lateral center line of said inner circulation channels.

25. (New) The evaporator of claim 23 wherein said first metal plate is a mirror image of said second metal plate when said first metal plate is brazed to said second metal plate to form said flat tube.